



# Launch Mission Execution Forecast

**Mission:** Falcon 9 Inspiration-4

**Issued:** 13 Sep 2021 / 1030L (1430Z)

**Valid:** 15 Sep 2021 / 2002 – 16/0113L (16/0002 – 0513Z)



**Forecast Discussion:** A weak boundary exists over the Space Coast providing an added trigger for showers and thunderstorms. This boundary should dissipate slowly over the next few days as the Bermuda Ridge exerts control over Central Florida. Onshore low-level flow over the Space Coast allows the east coast sea breeze to move inland rapidly, keeping most afternoon/evening convection on the western half of the peninsula. This pattern also allows tropical waves travelling along the southern periphery of the ridge to move over the Space Coast. There is a moderate chance one of these waves will develop a circulation center by mid-week, which will bring added shower activity and increased winds to the ascent corridor. The primary launch weather concerns are Flight Through Precipitation and the Thick Cloud Layer Rule associated with the tropical activity and onshore flow.

On Thursday, the tropical system will be further northeast of the Spaceport, however guidance is not consistent on the strength or location of the tropical feature, so the risk of showers and elevated winds remains along the ascent corridor. The primary launch weather concerns remain Flight Through Precipitation and the Thick Cloud Layer Rule.

Launch Day	Probability of Violating Weather Constraints						
	20%	Primary Concerns: Flight Through Precipitation, Thick Cloud Layer Rule					
	Weather Conditions					Additional Risk Criteria	
	<b>Weather/Visibility:</b> Isold Showers / 7 mi.	<b>Clouds</b>				<b>Onshore Winds:</b>	Moderate
		Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b>	Moderate
24-Hour Delay	<b>Temp/Humidity:</b> 78°F / 90%	Cumulus	Few	3,000	10,000	<b>Solar Activity:</b>	Low
	<b>Liftoff Winds (200'):</b> 120° 8 - 12 mph	Altocumulus	Scattered	12,000	15,000		
	Probability of Violating Weather Constraints						
	20%	Primary Concerns: Flight Through Precipitation, Thick Cloud Layer Rule					
	Weather Conditions					Additional Risk Criteria	
	<b>Weather/Visibility:</b> Isold Showers / 7 mi.	<b>Clouds</b>				<b>Onshore Winds:</b>	Moderate
		Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b>	Moderate
	<b>Temp/Humidity:</b> 78°F / 90%	Cumulus	Few	3,000	10,000	<b>Solar Activity:</b>	Low
	<b>Liftoff Winds (200'):</b> 150° 5 - 10 mph	Altocumulus	Scattered	12,000	15,000		

**Note:** The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

<b>Next Forecast Will Be Issued</b>	14 Sep 2021
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